

lifting up the upper Glass from the lower, the diameter of the Rings would decrease, and the breadth of their Orbit encrease, until their Colours reached successively to the center; and then they being of a considerable breadth, I could more easily discern and distinguish their Species than before. And by this means I observed their Succession and Quantity to be as followeth.

Next, to the pellucid central Spot made by the contact of the Glasses succeeded blue, white, yellow, and red, the blue was so little in quantity that I could not discern it in the circles made by the Prisms, nor could I well distinguish any violet in it, but the yellow and red were pretty copious, and seemed about as much in extent as the white, and four or five times more than the blue. The next Circuit in order of Colours immediately encompassing these were violet, blue, green, yellow, and red, and these were all of them copious and vivid, excepting the green, which was very little in quantity, and seemed much more faint and dilute than the other Colours. Of the other four, the violet was the least in extent, and the blue less than the yellow or red. The third Circuit or Order was purple, blue, green, yellow, and red; in which the purple seemed more reddish than the violet in the former Circuit, and the green was much more conspicuous, being as brisk and copious as any of the other Colours, except the yellow; but the red began to be a little faded, inclining very much to purple. After this succeeded the fourth Circuit of green and red. The green was very copious and lively, inclining on the one side to blue, and on the other side to yellow. But in this

this fourth Circuit there was neither violet, blue, nor yellow, and the red was very imperfect and dirty. Also the succeeding Colours became more and more imperfect and dilute, till after three or four Revolutions they ended in perfect whiteness. Their Form, when the Glasses were most compressed so as to make the black Spot appear in the Center, is delineated in the Second Figure; where $a, b, c, d, e, f, g, h, i, k, l, m, n, o, p, q, r$: *Fig. 2.* s, t, v, x, y denote the Colours reck'ned in order from the center, black, blue, white, yellow, red: violet, blue, green, yellow, red: purple, blue, green, yellow, red: green, red: greenish blue, red: greenish blue, pale red: greenish blue, reddish white.

O B S. V.

To determine the interval of the Glasses, or thickness of the interjacent Air, by which each Colour was produced, I measured the Diameters of the first six Rings at the most lucid part of their Orbits, and squaring them, I found their Squares to be in the Arithmetical Progression of the odd Numbers, 1. 3. 5. 7. 9. 11. And since one of these Glasses was Plain, and the other Spherical, their Intervals at those Rings must be in the same Progression. I measured also the Diameters of the dark or faint Rings between the more lucid Colours, and found their Squares to be in the Arithmetical Progression of the even Numbers, 2. 4. 6. 8. 10. 12. And it being very nice and difficult to take these measures exactly; I repeated them at divers times at divers parts of the Glasses, that by their Agreement I might be confirmed in them. And the same Method I used in deter-